

REQUEST FOR A RULING ON THE INTERPRETATION OF THE
NOMINAL SPECIES *UNIO PHILLIPSII* WILLIAMSON, 1836
(CLASS PELECYPODA) IN ACCORDANCE WITH ACCUSTOMED USAGE.
Z.N.(S.) 1398

By J. Weir (*The University, Glasgow, Scotland*)

The purpose of the present application is to stabilise the interpretation of the nominal species *Unio phillipsii* Williamson, 1836 (type-species, by original designation, of the nominal genus *Anthraconauta* Pruvost, 1930) in the sense in which the name has been used for the last sixty-six years. The case is one in which it is impossible to identify the original type-material with sufficient certainty for the selection of a lectotype, and equally impossible to demonstrate its loss or destruction sufficiently to justify the designation of a neotype. The species in question is a non-marine lamellibranch found in abundance at a number of horizons in the Upper Coal Measures (Morganian) of Britain. It is the index-fossil of the zone of *Anthraconauta phillipsii* in that country and of the strata known as Westphalian C (upper part) in Western Europe, and it is found in homotaxially equivalent strata in the Donetz Basin in the Soviet Union. It has considerable stratigraphical and economic importance in all these areas in the location of coal-bearing strata at the surface and in deep borings. Modern taxonomic work has led to the recognition of a number of species closely related to *Anthraconauta phillipsii*, and the point of departure for these advances has been the interpretation given to this species by Wheulton Hind in 1893. It is in that sense that it is now sought to stabilise the interpretation of the species, in the interests of the stratigraphical, taxonomic and economic considerations outlined above.

2. W. C. Williamson (1836, *Phil. Mag.* (3) 9 : 350-351) first described the species (without illustration) as follows, naming it in a conditional manner : "The black bass is literally filled with fragments and perfect shells of a species of *Unio* of small size. It bears a considerable resemblance to Hibbert's *Unio nuciformis* from the Burdiehouse limestone, but is of a less globular form. This shell varies considerably in size, being sometimes one and a half inches in length, and at others not more than three quarters of an inch. The depressed and crushed state in which these fossils are found would indicate a shell of a thin and fragile nature, and such it has doubtless been . . .

My friend Mr. Joshua Alder, of Newcastle, informs me that he has met with an *Unio*, closely resembling our specimens, in the coal strata at the above place. This shell differs from the *U. nuciformis* of Burdiehouse in being broader and wider in proportion to its length, as well as in being a more fragile and delicate shell. I am inclined to think it is an undescribed species ; if so, I would propose the name of *Unio Phillipsii* . . .".

3. Williamson taught geology and natural history at Owens College (the forerunner of Manchester University) from 1851 to 1892 and his collection is now, and always has been, housed in what is now the Manchester Museum. His paper from which a passage is quoted above is on the Upper Coal Measures of the Manchester District, but it is impossible now to identify specimens in

his collection which were certainly in his hands in 1836. From the context, it appears that he is describing the species in connection with the description of the strata in the Pendlebury district, but no material certainly from that area can now be identified. He seems also to have had specimens from near Ardwick (about seven miles from Pendlebury on the other side of Manchester). No specimens from Newcastle-on-Tyne that could have assisted in the preparation of the descriptions are known in Williamson's collection.

4. It seems clear that Williamson had collected, or had at least seen, many specimens of his *Unio Phillipsii*, all of which would rank equally as syntypes. There are no *a priori* grounds, however, for regarding any specimen as being a "type" in his estimation, and no certain means of identifying any of the original syntypes.

5. Murchison, 1839 (*Silurian System* : 84, fig. C) figured "A shell resembling *Modiola* from Ardwick, near Manchester" and repeated the figure in a later work (*Siluria*) as "*Anthracomya* (*Modiola* Sil. Syst.) from Ardwick, Manchester, in a band of limestone of the same [i.e. Coal Measures] age". It is almost certain that Murchison had the original of this figure from Williamson, and Jackson (1952, Catalogue Types figd. Species geol. Dept. Manch. Mus. : 79) thought it possible that specimen No. L10106 (discussed more fully below) might have been this specimen. The quality of the drawing neither forbids nor confirms this possibility.

6. The next author to discuss the species was T. R. Jones, 1870 (*Geol. Mag.* 7 : 216-217, pl. ix, part), but his interpretation, apart from being widely different from that currently accepted, is confused. Jones stated (under the heading of "*Anthracomya Phillipsii* Williamson sp.") : "The Molluscan shells referred to above are very numerous, flattened and compressed, in layers. The chief form is similar to Prof. Williamson's *Unio Phillipsii* from the Upper Coal-Measures at Ardwick, near Manchester . . . Fig. 1, Pl. IX represents the *Anthracomya* so abundant in the shales under notice ; specimens like Fig. 18 are rare."

The confusion lies in the fact that, in the Explanation of Plate IX, fig. 1 is said to represent "*Estheria Adamsii* sp. nov.", while fig. 3 is described as "*Anthracomya Phillipsii* Williamson sp., natural size" and fig. 18 as "*Anthracomya* (young of *A. Phillipsii*?) see fig. 3. Mag. 10 diam.". His specimens, which came from South Wales, are not known to exist, and in any case they could only be used to alter drastically the current interpretation of Williamson's species.

7. Jones gave no formal description of the species, but R. Etheridge jun., 1877 (*Geol. Mag.* (2) 4 : 221) described it accurately (as *Anthracomya Phillipsii*) and figured two specimens (pl. xii, figs. 6, 7). The original of the latter, from the "Coal Measures, Ardwick, cabinet of Prof. W. C. Williamson", is possibly No. L10106 mentioned in paragraph 5 above.

8. The basis of the modern interpretation of the species was laid down by Wheelton Hind in 1893 (*Quart. J. Geol. Soc. London* 49 : 264). He referred to "the loan of Prof. Williamson's type-specimen" and described its illustration (pl. x, fig. 27) as "Type-specimen from Owens College, Manchester". In 1895 (*Monograph of Carbonicola, Anthracomya and Naiadites* : 121, *Palaeont. Soc.*)

Hind said "The original type of this species was named by Dr. W. C. Williamson, who obtained his specimen from the *Spirorbis*-limestone shale of Pendlebury . . ." and continues "I am able to figure this shell in Pl. XVI, fig. 10". In the explanation of this figure, however, the locality is given as "Ardwick". It thus seems clear that the Museum authorities had no doubt about the authenticity of the specimen and that Williamson had indeed regarded it as a morphologically satisfactory and typical example of the species.

9. In 1912, J. W. Jackson (*Geol. Mag.* (5) 9 : 453) correctly noted "The example described and figured by Hind (Manch. Mus. L10106) is labelled on its underside as coming from Ardwick and the matrix is a red shale, whereas Williamson in his original diagnosis . . . gives the *Spirorbis* limestone shale of Pendlebury as the horizon and locality whence Dr. C. Phillips obtained the specimens on which the species appears to have been founded. The Ardwick specimen, therefore, can only be regarded as the original of Hind's figures and not as the type specimen." It has already been said in paragraph 3 above that Williamson may have had specimens from more than one locality.

10. In 1930 Pruvost (*Mém. Mus. Hist. nat. Belg.* 44 : 247) proposed the genus *Anthraconauta* to contain certain species hitherto placed in *Anthracomya* Salter (*non* Rondani) and designated the type-species as follows: "Espèce géotype *Anthraconauta Phillipsi* Williams." [*sic*]. He treated the generic name as feminine by citing "*Anthraconauta belgica* Hind" (first described as a species of *Anthracomya*) and "*Anthraconauta minima* Ludwig" (first described as a species of *Anodonta*). Professor L. W. Grensted, Consulting Classical Adviser to the Commission, points out, however, that the generic name, which is a compound word ending in the Latin masculine noun *nauta*, is indisputably masculine by reference to any rule governing the gender of compound names of classical origin.

11. In 1931, Dix & Trueman (*Quart. J. Geol. Soc. London* 87 : 186, text-fig. 3, pl. xvii, figs. 1a, 1b) spoke of Manchester Museum L10106 as the "holotype" of Williamson's species. Their paper is a thorough study on modern lines of the group of species to which *Anthraconauta phillipsii* belongs and is still in some respects the standard work on the subject. Jackson, 1952 (*op. cit.* : 79) again cited the specimen as the "holotype" of the species.

12. I am at present engaged in seeing through the press that part of a Monograph of the British Carboniferous non-marine Lamellibranchia (begun by the late Sir Arthur Trueman and myself in 1946 and published by the Palaeontographical Society) which deals with the genus *Anthraconauta*. I wish to interpret the type species of that genus in accordance with the usage initiated by Etheridge in 1877, confirmed by Hind in 1893 and 1895, and firmly established by Dix & Trueman in 1931. This usage has been followed by many other authors in Europe and the U.S.S.R. in stratigraphical studies and in Memoirs of the Geological Survey of Great Britain, and it has guided the identification of many hundreds of specimens in collections. I wish also to see the generic name *Anthraconauta*, as defined by the type species interpreted as indicated, placed on the Official List of Generic Names in Zoology.

13. The genus *Anthraconauta* is currently placed in the family MYALINIDAE and no family-group name problems arise in the present case.

14. I therefore ask the International Commission on Zoological Nomenclature :

- (1) to give a ruling that the nominal species *Unio phillipsii* Williamson, 1836 is to be interpreted by reference to specimen No. L10106 in the Geological Department of the Manchester Museum, England ;
- (2) to place the generic name *Anthraconauta* Pruvost, 1930 (gender : masculine), type-species, by original designation, *Unio phillipsii* Williamson, 1836 on the Official List of Generic Names in Zoology ;
- (3) to place the specific name *phillipsii* Williamson, 1836 (as published in the binomen *Unio phillipsii*) (type species, by original designation, of *Anthraconauta* Pruvost, 1930) on the Official List of Specific Names in Zoology.

SUPPORT FOR THE REQUEST BY DR. J. WEIR FOR A RULING ON THE INTERPRETATION OF THE NOMINAL SPECIES *UNIO PHILLIPSII* WILLIAMSON IN ACCORDANCE WITH ACCUSTOMED USAGE. Z.N.(S.) 1398

By R. M. C. Eagar (*The Manchester Museum, Manchester, England*)

Since 1945 I have been in charge of the geological collections in the Manchester Museum. Amongst them I have found several slabs with numerous specimens of *Anthraconauta phillipsii* (Williamson), all but one (L.12049D) having been labelled as coming from Ardwick. The handwriting on the attached labels suggests the possibility that all these slabs, including the unlocalised L.12049D, may have been in the hands of W. C. Williamson at an early date, possibly in 1836. None of the specimens, however, closely fits any figures of the species published before 1893. Nor is preservation, nor degree of completeness, so satisfactory amongst these specimens as in that registered as L10106 and labelled, possibly by E. W. Binney, as "*Anthracomya phillipsii* Owens College, Manchester. Type Specimen". This latter shell, in my opinion, could be the original of the stylised drawing in Murchison's "Siurian System", p. 84, Fig. C (1839), although perhaps it is worth pointing out that the matrix of L.10106 is a pink mudstone, whereas Murchison, repeating the figure in his *Siluria*, refers to it as coming from a band of limestone (see the foregoing Application, p. 62). I think there can be no reasonable doubt that L.10106 is the original of R. Etheridge jun., 1877, pl. xii, fig. 7.

In short, although more Manchester Museum specimens than L.10106 may have been available to Williamson in 1836, or shortly before this time, and although there can be no certainty that even this specimen was in his collections then, there is no reason to suppose that any one of these specimens is a more authentic syntype than L.10106. Moreover none is so well preserved, nor so useful for stabilising the interpretation of the species *Anthraconauta phillipsii*, as this much-figured shell. For these reasons I wish fully to support Dr. Weir's application to the International Commission for a ruling on the nominal species *Unio phillipsii* Williamson ; that the species be interpreted by reference to the specimen L.10106 in the Geological Department of the Manchester Museum ; that the generic name *Anthraconauta* Pruvost, 1930, with type species by original designation *Unio phillipsii* Williamson, 1836, be placed on the Official List of Generic Names in Zoology, and that the specific name *phillipsii* Williamson be placed on the Official List of Specific Names in Zoology.

16 OCT 1959

PURCHASED

